

REMARKS

Claims 1-12 remain pending in the above-identified application and currently stand rejected Finally Rejected following the Official action of July 31, 2009. To place the claims in better condition for consideration, applicants have amended claims 1 and 12. Ample antecedent basis exists for such amendments

35 U.S.C. §101 Rejection of Claims 1, 3 and 12

Claim 1, 3 and 12 stand Finally Rejected under 35 U.S.C. §101 as drawn to a non-statutory process. Claims 1, 3, and 12, as amended, fully comply with 35 U.S.C. §101 for the reasons given below.

As announced by the Court of Appeals for the Federal Circuit in the recently decided case *In Re Bilski*, 545 F. 3d 943, 953 (Fed Cir. 2008), the appropriate test for determining compliance with 35 U.S.C. §101 is the “machine or transformation” test as elucidated by the U.S. Supreme Court in *Benson*, 409 U.S. 70. In particular, to be eligible for a patent under 35 U.S.C. §101, a process must be tied to a particular machine or transform a particular article to a different state or thing.

Applicants have amended claims 1 and 12 to recite a method executed by a decoder. Antecedent basis for such amendment exists at page 2, lines 18-21. Amended, applicants’ method claims 1 and 12 are now tied to a particular machine (i.e., a decoder) and thus satisfy the “machine” prong of the machine or transformation test as set forth in *Bilsky*. Applicants request withdrawal of the 35 U.S.C § 101 rejection of claims 1 and 12 as well as claim 3 which depends from claim 1.

35 U.S.C. 103(a) Rejection of Claims 1, 3 and 12

Claims 1, 3, and 12 stand Finally Rejected under 35 U.S.C. 103(a) as obvious over US Published Patent Application US 2004/0022318 in the name of Diego Garrido et al. published 5 February 2004, and claiming priority to a provisional application filed 29 May 2002. **(In the most recent office action, the examiner still continues to refer to the Garrido et al. published application as US Patent No. 6,728,317 which was filed in the name of Gary Demos. Given that all of the paragraph references cited by the examiner correspond to**

the Garrido et al. published application; applicants presume the examiner continues to rely upon published application US 2004/0022318 in making her rejections.)

The Garrido et al. published application concerns a technique for enhancing picture quality by the use of a coding technique that relies on a database of codebooks generated in accordance with difference pictures. Notwithstanding applicants' arguments to the contrary, the examiner continues to assert that the Garrido et al. published application teaches applicants' step of transforming film grain samples into the frequency domain.

In support of her rejection, the examiner the examiner relies to paragraphs [186] – [195] which describe the manner in which Garrido et al. apply a Discrete Cosine Transformation (DCT) to video information for the purpose of image classification. However, a careful examination of each of paragraphs [186]-[195] of Garrido et al. reveals **no mention whatsoever of film grain**, let alone a method for simulating film grain, including the step of transforming film grain samples into the frequency domain as recited in claim 1. Further, none of paragraphs [186]-[195] disclose or suggest estimating the cut-frequencies of a 2-dimensional filter that can effectively simulate a pattern of transform coefficients by filtering random noise in the frequency domain to yield film grain patterns.

Thus, in the absence of any discussion of film grain in any of paragraphs [186]-[195] the examiner has no basis in fact to suggest that Garrido et al. teach applicants step of transforming film grain samples into the frequency domain as part of a process for modeling film grain, as recited in applicants' claims. Therefore, applicants' amended claims 1 and 12, and claim 3 which depends from claim 1, are not obvious in view of Garrido et al. because the Garrido et al published application does not teach or suggest all of features of applicants' claims.

The phrase "film grain" appears in the Garrido et al. published application only at three separate instances, namely paragraphs [54], [131] and [147], **and only in connection with film grain removal**. Nowhere does Garrido et al. speak of modeling film grain for insertion in a video sequence as now recited in amended claims 1 and 12 and incorporated by reference in claim 3 by virtue of its dependence on claim 1. The examiner has admitted on page 4 of the Official action that Garrido et al. does not explicitly disclose a method of modeling film grain. Rather, the examiner suggests that it would be obvious to a skilled artisan that some form of automatic modeling occurs in Garrido et al. Applicants question how the examiner can suggest that it would be obvious that some form of automatic film grain modeling occurs in Garrido, especially since the examiner admits that she cannot explicitly identify any type of automatic film grain modeling occurring in the Garrido et al. system, or

any suggestion of such modeling. Given that Garrido et al. only speak about film grain removal, applicants question how it would be obvious to suggest that automatic modeling of film grain is taking place in Garrido et al. for inserting such film grain in the video sequence, as is now recited in claims 1, 3 and 12. The fact that Garrido et al. speaks about film grain only in terms of its removal from the image provides a clear **teaching away** from applicants' method for automatically modeling film grain patterns for insertion in a video sequence. For this reason as well, applicants' claims 1, 3 and 12 are non obvious in view of, and thus patentable over the Garrido et al. publication. Applicants' request withdrawal of the 35 U.S.C § 103(a) rejection of claims 1, 3 and 12.

Applicants reiterate that the examiner's 35 U.S.C. 103(a) rejection of claims 1, 3, and 12 over Garrido et al. must fail because the examiner has failed to establish a *prima facie* case of obvious. The examiner explicitly admits that the Garrido et al. publication discloses the desirability of removing film grain from an image. Clearly, a skilled artisan seeking to simulate film grain within an image would not look to the Garrido et al. published application in view of its specific teaching of **removing film grain**. The examiner's failure to establish a *prima facie* case of obviousness warrants withdrawal of the 35 U.S.C. 103(a) rejection of claims 1, 3, and 12.

35 U.S.C. 103(a) Rejection of Claim 2

Claim 2 stands rejected under 35 U.S.C. 103(a) as obvious over the Garrido et al publication discussed above, in view of US Published application US 20040006575 in the name of Zubair Visharam et al. Applicants respectfully traverse this rejection.

Claim 2 depends from claim 1 and includes the additional feature of transmitting cut frequencies in a Supplemental Enhancement Information (SEI) message. In rejecting claim 1, the examiner contends that the Garrido et al. application would suggest all of the features of claim 1 except for the use of an SEI message taught by the Visharam et al. published application.

The Garrido et al. published application does not suggest all of the features of applicants' claim 1 for the reasons discussed previously. Indeed, Garrido et al. teaches away from applicants' invention, which itself would lead away from the examiner's proposed combination of Garrido et al. with Visharam et al. Moreover, the Visharam et al. publication contains no teaching or any mention of film grain. Thus, the Visharam et al. publication would not cure the deficiencies of Garrido et al. Therefore, claim 2 patentably distinguishes

over the art of record and applicants request withdrawal of the 35 U.S.C. 103(a) rejection of this claim.

35 U.S.C. 103(a) Rejection of Claims 4 and 8

Claims 4 and 8 stand rejected under 35 U.S.C. 103(a) as obvious in view of the Garrido et al. published application, further in view of US Published application US 2002/0003903 in the name of Peter Engledrum et al., and further in view of US Patent 6,327,391 in the name of Shinji Ohnishi et al. Applicants respectfully traverse this rejection.

Claim 4 depends from claim 3 and further includes the feature of analyzing the pattern of transformed coefficients by the steps of: (1) computing a mean block of transform coefficients, (2) defining vertical and horizontal mean vectors, and (3) representing the vectors as curves that serve to establish the cut frequencies. Claim 8 contains similar features as claim 4.

In rejecting claims 4 and 8, the examiner contends that the Garrido et al. publication suggests all of the features of these claims except computing mean blocks of transform coefficients for which the examiner relies on the Engledrum et al. publication. Further, the examiner relies on the Ohnishi et al. patent for establishing cut-off frequencies from mean vectors.

Claims 4 and 8 ultimately depend from claim 1 and incorporate by reference all of the features of that claim, including the step of transforming a set of film grain samples into the frequency domain. As discussed previously, the Garrido et al. publication fails to teach or suggest this feature of claim 1. Indeed, the Garrido et al. publication actually teaches away from this feature by discussing film only in connection with its removal from the image. Neither the Engledrum et al. publication nor the Ohnishi et al say anything regarding film grain, and thus neither of these references cures the deficiencies of the Garrido et al. publication. Accordingly, the examiner's proposed combination of Garrido et al., Engledrum et al and Ohnishi et al. fails to teach all of the features of claim 1 incorporated by reference in claims 4 and 8. Therefore, claims 4 and 8 patentably distinguish over the art of record, warranting withdrawal of the 35 U.S.C. 103(a) rejection of these claims.

35 U.S.C. 103(a) Rejection of Claims 5 and 9

Claims 5 and 9 stand rejected under 35 U.S.C. 103(a) as obvious in view of the Garrido et al. published application, further in view of Engledrum et al. and Ohnishi et al., further in view of US Patent 6,285,711 in the name of Krishna Ratakonda et al. Applicants respectfully traverse the rejection.

Applicants' claims 5 and 9 depend from claims 4 and 8, respectively, and further teach the step of low-pass filtering at least one mean vector. In rejecting these claims, the examiner contends that the combination of Garrido et al., Engledrum et al and Ohnishi et al. teach all of the features of claim 4 and 8 and that the Ratakonda et al. patent teaches the step of low pass filtering at least one mean vector.

As discussed above with respect to claims 4 and 8, the examiner's proposed combination of Garrido et al., Engledrum et al and Ohnishi et al. fails. None of these references, especially the Garrido et al. publication, teaches a method for modeling film grain, let alone a method for modeling film grain for insertion in a video sequence that includes the step of transforming a set of film grain samples to the frequency domain, as recited in claim 1 and incorporated by reference in claims 4 and 8.

The Ratakonda et al patent concerns a technique for estimating a motion field and says nothing about modeling film grain, let alone a method for modeling film grain that includes the step of transforming a set of film grain samples to the frequency domain. Therefore, the Ratakonda et al. patent not does cure the deficiencies of the Garrido et al., just as the Engledrum et al and Ohnishi et al. references fail to do so. Therefore, claims 5 and 9 patentably distinguish over the art of record, thus warranting withdrawal of the 35 U.S.C. 103(a) rejection of these claims.

35 U.S.C. 103(a) Rejection of Claims 6, 7, 10, and 11

Claims 6, 7, 10, and 11 stand rejected under 35 U.S.C. 103(a) as obvious in view of the combination of Garrido et al., Engledrum et al and Ohnishi et al., as applied to claims 4 and 8, further in view of US patent 5,216,556 to Mitchell Steinberg et al. Applicants respectfully traverse the rejection.

Claims 6, 7, 10, and 11 further recite the establishing cut frequencies from a curve representing a mean vector. In rejecting these claims, the examiner contend that the combination of Garrido et al., Engledrum et al and Ohnishi et al. teaches all of the features of

claims 4 and 8 and that the Steinberg et al. patent teaches stabilizing cut-frequencies from a curve.

As discussed above with respect to claims 4 and 8, the examiner's proposed combination of Garrido et al., Engledrum et al and Ohnishi et al. fails. None of these references, especially the Garrido et al. publication, teaches a method for modeling film grain, let alone a method for modeling film grain for insertion in a video sequence that includes the step of transforming a set of film grain samples to the frequency domain, as recited in claim 1 and incorporated by reference in claims 4 and 8.

The Steinberg et al. patent concerns a method for optimizing tape tension in a tape drive and says nothing about modeling film grain, let alone a method for modeling film grain that includes the step of transforming a set of film grain samples to the frequency domain. Therefore, the Steinberg et al. patent does not cure the deficiencies of the Garrido et al., Engledrum et al and Ohnishi et al. references. Therefore, claims 6, 7, 10 and 11 patentably distinguish over the art of record, thus warranting withdrawal of the 35 U.S.C. 103(a) rejection of these claims.

Conclusion

In view of the foregoing amendments to the claims and the accompanying remarks, applicants solicit entry of this amendment and allowance of the claims. If the Examiner cannot take such action, the Examiner should contact the applicant's attorney at (609) 734-6820, to schedule a mutually convenient date and time for a telephonic interview.

No fees are believed due with regard to this Amendment. Please charge any fee or credit any overpayment to Deposit Account No. **07-0832**.

Respectfully submitted,
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